

WHAT IS CLAIMED IS:

1. A phosphor multilayer comprising at least a first thin film and a second thin film, wherein
- 5 said first thin film is formed of a matrix material comprising barium aluminate as a main component, containing sulfur element and further containing europium as a luminescent center, and
- 10 said second thin film is formed of a matrix material comprising zinc sulfide as a main component.
2. The phosphor multilayer of claim 1 wherein the molar ratio of the content of sulfur element admixed to the content of oxygen element in the matrix material, as
- 15 expressed by  $S/(S+O)$ , is between 0.02 and 0.5.
3. The phosphor multilayer of claim 1 wherein the molar ratio of the content of sulfur element admixed to the content of oxygen element in the matrix material, as
- 20 expressed by  $S/(S+O)$ , is between 0.7 and 0.9, and the ratio of aluminum element Al to barium element Ba, as expressed by  $Al/Ba$ , is between 1.5 and 3.0.
4. The phosphor multilayer of claim 1 wherein the
- 25 synthetic color of emissions from said first and second thin films is white having CIE chromaticity coordinates of  $x = 0.27$  to  $0.39$  and  $y = 0.27$  to  $0.38$ .
5. An EL panel having the phosphor multilayer of claim
- 30 1.